

WHAT IS CLAIMED IS:

1. A parameter correction circuit, which is a built-in parameter correction circuit of a semiconductor integrated circuit, comprising a current supply circuit, a variable parameter, a plurality of switching circuits, a voltage measuring circuit and an adjusting circuit that adjusts a parameter value of the variable parameter, wherein

the current supply circuit, the variable parameter, the plurality of switching circuits, the voltage measuring circuit and the adjusting circuit are included in the semiconductor circuit,

any one of the switching circuits is connected to a reference parameter, the reference parameter having a preliminarily known parameter value,

the switching circuits are allowed to switch electrical connections among the current supply circuit, the reference parameter, the variable parameter and the voltage measuring circuit,

the voltage measuring circuit measures voltages generated in the reference parameter and the variable parameter respectively when currents are respectively supplied to the reference parameter and the variable parameter from the current supply circuit, and

the adjusting circuit adjusts the parameter value of the variable parameter based upon the voltages of the reference parameter and the variable parameter measured by the voltage measuring circuit.

2. A parameter correction circuit according to claim 1, wherein the variable parameter and the reference parameter are a variable resistor element and a reference resistor element.

3. A parameter correction circuit according to claim 1, wherein the variable parameter and the reference parameter are a variable inductor element and a reference inductor element.

4. A parameter correction circuit according to claim 1, wherein the variable parameter and the reference parameter are a variable capacitor element and a reference capacitor element.

5. A parameter correction circuit according to claim 1, wherein the reference parameter is placed outside the semiconductor integrated circuit, and connected to an external terminal of the semiconductor integrated circuit.

6. A parameter correction circuit according to claim 5, wherein the reference parameter is shared by the parameter having a preliminarily known parameter value, which is originally connected to the external terminal of the semiconductor integrated circuit.

7. A parameter correction circuit according to claim 1, wherein the reference parameter is included in the semiconductor integrated circuit.

8. A parameter correction circuit according to claim 1, wherein the semiconductor integrated circuit having the built-in parameter correction circuit is a PLL circuit, the PLL circuit having a phase comparator, a charge pump, a filter circuit, a voltage control oscillator and a frequency divider, the filter circuit being constituted by a resistor element and a capacitor element, the variable parameter being included in the semiconductor integrated circuit as the resistor element or the capacitor element.

9. A parameter correction circuit according to claim 1, wherein the current supply circuit comprises a current supply, and a mirror circuit having an output terminal, the mirror circuit being connected to the current supply and allows a current corresponding to the current of the current supply to flow from the output terminal.

10. A parameter correction circuit according to claim 9, wherein the switching circuits comprise first and second switching circuits, the first switching circuit is placed between the mirror circuit and the reference parameter, and the second switching circuit is placed between the mirror circuit and the variable parameter.

11. A parameter correction circuit according to claim 10, wherein the switching circuits further comprise a third switching circuit, and the third switching circuit is connected to the output terminal of the mirror circuit so that the voltage measuring circuit measures a voltage of the third switching circuit when a current is allowed to flow from the mirror circuit to the third switching circuit.

12. A parameter correction circuit according to claim 1, wherein the current supply circuit comprises a current supply and a mirror circuit having first and second terminals, the mirror circuit being connected to the current supply and allows a current having the same value as the current of the current supply to flow from the first output terminal to the reference parameter, and also to flow from the second output terminal to the variable parameter.

13. A parameter correction circuit according to claim 12, wherein the switching circuits comprise first and second switching circuits, the first switching circuit is placed between the reference parameter and the voltage measuring circuit, and the second switching circuit is placed between the variable parameter and the voltage measuring circuit.

14. A parameter correction circuit according to claim 1, wherein the current supply circuit comprises a load circuit, the load circuit has a transistor that has a source connected to the current supply or grounded and supplies a current through a drain thereof, and a switching circuit that is connected to the gate of the transistor so as to on-off control the transistor.

15. A parameter correction circuit according to claim 1, wherein the voltage measuring circuit comprises a sample hold circuit that holds the voltage of the reference parameter, and a comparator that compares the voltage of the variable parameter with the voltage of the reference parameter that has been held in the sample hold circuit.

16. A parameter correction circuit according to claim 2, wherein the parameter correction circuit is used as a current-voltage converter which, after the resistance value of the variable resistor element has been corrected to a target value, outputs a voltage that is generated in the variable resistor element, upon allowing a current to flow from the current supply or another current supply to the variable resistor element.

17. A parameter correction circuit according to claim 1, wherein the semiconductor integrated circuit comprises another variable parameter having the same structure as the variable parameter, and the another variable parameter is capable of being adjusted to the same parameter-value as the variable parameter that is included in the parameter correction circuit.

18. A parameter correction circuit according to claim 3, wherein the parameter correction circuit is used as an oscillator circuit in which, after the inductance value of the variable inductor element has been corrected to a target value, an oscillating frequency thereof is set to a target frequency.

19. A parameter correction circuit according to claim 1, wherein the variable parameter is constituted by a plurality of unit parameters that are series-connected to one another, and among all the unit parameters, a desired number of series circuits of the continuous unit parameters are extracted.

20. A parameter correction circuit according to claim 1, wherein the variable parameter is constituted by a plurality of unit parameters that are parallel-connected to one another, and among all the unit parameters, a desired number of parallel circuits of the continuous unit parameters are extracted.

21. A parameter correction method, which corrects a parameter value of a variable parameter by using a computer, wherein the computer carries out the steps of:

connecting a current supply circuit to a reference parameter having a preliminarily

known parameter value;

allowing a current to flow from the current supply circuit through the reference parameter to measure a voltage of the reference parameter at this time;

5 calculating a value of the current supplied from the current supply circuit based upon the voltage of the reference parameter and the parameter value of the reference parameter;

calculating a target voltage of the variable parameter when the parameter value of the variable parameter is set to the target value based upon the value of the current calculated;

10 while allowing a current to flow from the current supply circuit to the variable parameter and measuring a voltage of the variable parameter at this time, correcting the parameter value of the variable parameter so that the voltage of the variable parameter is set to the target voltage.